

ISACHENKOV, YE. I., PIKHTOVNIKOV, R. V.

Deformations (Mechanics)

"Effect of the speed of deformation on the process of stamping parts from steel sheet."
Vest. mash. 32 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1953, Unclassified.
2

ISACHENKOV, Yevgeniy Ivanovich, kand.tekhn.nauk; SVERDLOV, M.I., kand.tekhn.
nauk, .retsentsent; ROMANOVSKIY, V.P., dots., kand.tekhn.nauk,
redaktor; KAPLANSKIY, Ye.F., redaktor izd-va; SOKOLOVA, L.V.,
tekhn.red.

[New extrusion methods] Novye sposoby shtampovki-vytiashki. Pod
obshchei red. V.P.Romanovskogo. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1955. 50 p. (Biblioteka shtampovshchika,
no.4) (MIRA 11:2)

(Extrusion process)

Isachenkov, Ye.I.
AUTHOR: Solomonov, M.

SOV/24-58-4-36/39

TITLE: Application of Technological Lubricants and Special Coatings During Shaping of Metals by Applying Pressure (Primeneniye tekhnologicheskikh smazok i spetsial'nykh pokrytiy pri obrabotke metallov davleniyem) Conference at the Institute for Mechanical Engineering of the Ac.Sc. USSR (Soveshchaniye v Institute mashinovedeniya Akademii nauk SSSR)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, p 153 (USSR)

ABSTRACT: The conference was held in December, 1957. The following papers were read: "General Relations and the Mechanism of Operation of Lubricants During Shaping of Metals by Applying Pressure" by V.I. Likhtman, S.Ya. Veyler (Institut fizicheskoy khimii AN SSSR - Institute of Physical Chemistry of the Ac.Sc.USSR); "Application of Principles of the Hydrodynamic Theory to the Process of Cold Stamping" by Ye.I. Isachenkov (NIAT); "New Stamping Lubricants for Deep and Particularly for Very Deep Drawing of Components made of Sheet Steel" by M.A. Sil'tsova (Gor'kovskiy avtozavod - Gor'kiy Automobile Works); "Lubricants for Stamping Sheet of Steel and of Various Alloys" by Yu.P. Davydov (VIAM);

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"New Lubricants for Wire Drawing" by A.G. Smirnova
(TsNIICHERMET); "Investigation of Technological
Lubricants Applied for Hot Stamping of Metal Components"
by S.A. Dovnar (Minskiy politekhnicheskii institut im.
I.V. Stalina - Minsk Polytechnical Institute imeni
I.V. Stalin); "Investigation and Testing of Certain
Technological Lubricants and Methods of Applying these
on the Dies of Presses During Hot Stamping of Aluminium
Alloys" by E.R. Shor (TsNIITMASH); "Lubricants Used in
Shaping of Metal by Pressure" by Ye.B. Zhuravskiy
(Aviatsionnyy zavod - Aviation Works). The data
given in the individual papers show the increasing use
of liquid, paste and solid technological lubricants
and special coatings in highly efficient processes of
shaping metals by applying pressure in the production
of complicated components from various heavy and light
non-ferrous alloys. The undertakings of the chemical
and the oil industries have so far not organised the

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production of the appropriate lubricants and the instrument industry does not produce instruments for determining the main parameters of these lubricants. So far, investigations by individual institutes of the Ac.Sc.USSR on technological lubricants have not been carried out on a sufficiently large scale and have not been adequately co-ordinated. The same applies to other institutes.

S. Ya. Veyler (Institut fizicheskoy khimii AN SSSR - Institute of Physical Chemistry of the Ac.Sc.SSSR) reported on work in the field of lubricants for cold stamping. Since the result of this work is little known, it was proposed to devote to it a specially convened extended seminar at the Institute of Mechanical Engineering of the Ac.Sc.USSR.

Co-ordination was urged of the research work in the use of lubricants for shaping of metals by pressure and this

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task should be undertaken by the Laboratoriya obrabotki
metallov davleniyem Instituta mashinovedeniya AN SSSR
(Laboratory for Shaping of Metals by Pressure of the
Institute of Mechanical Engineering of the Ac.Sc.USSR).
The importance was pointed out of putting onto the
market instruments for determining the main parameters
of lubricants and also of automatic equipment for coating
dies with technological lubricants. It is necessary to
work out standard specifications for technological
lubricants and also recipes and methods of analysis of
such lubricants and to increase the manufacture by the
industry of standard technological lubricants. At
regular intervals, symposia should be published on
technological lubricants and special coatings used in
the shaping of metals by applying pressure.

Card 4/4

Isachenkov, Ye. I.

25(1,5)

PHASE I BOOK EXPLOITATION

SOV/2294

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo

Novoye v tekhnologii vysokoproizvoditel'noy listovoy shtampovki; sbornik trudov konferentsii (New Features in the Methods of High-productivity Sheet Metal Stamping; Collection of Conference Transactions) Moscow, Mashgiz, 1959. 228 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Resp. Ed.: V.T. Meshcherin, Doctor of Technical Sciences, Professor; Eds.: V.D. Golovlev, Candidate of Technical Sciences, Docent, and Ye.N. Lansky, Candidate of Technical Sciences, Docent; Ed. of Publishing House: G.N. Sokolev; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin, Engineer.

PURPOSE: This collection of papers is intended for engineers and technicians in sheet metal stamping. It may also be useful to

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New Features (Cont.)

SOV/2294

students of vuzes and tekhnikums.

COVERAGE: This collection deals with the design and features of some current problems in sheet metal stamping. Also discussed are processing methods still in the experimental stage. Several articles deal with the mechanization and automation of stamping processes and describe recently developed methods, such as explosion forming, the use of automatic rotary transfer lines, and press blocking with the use of radioactive isotopes. No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

Preface

3

Meshcherin, V.T., [Doctor of Technical Sciences, Professor, Stankoinstrumental'nyy institut, Moskva (Moscow Machine Tool and Instrument Institute)]. Basic Manufacturing Problems of the Near Future

5

Card 2/9

New Features (Cont.)

SOV/2294

The author discusses labor productivity, shapes of work-pieces, the materials used, **stamping** operations and technique, production lines, working speed, and the correct meaning of basic operational **time**.

Pikhtovnikov, R.V. [Doctor of Technical Sciences, Professor, Khar'kovskiy aviatsionnyy institut (Khar'kov Aircraft Institute)]. Use of an Explosive Wave for Drawing and Forming Medium and Large Parts in Small-scale Production

22

The author discusses experimental fabrication of shallow dish-type parts of an explosive wave caused by gunpowder, gasoline, or natural gas.

Koshkin, L.N. [Candidate of Technical Sciences]. New Possibilities in the Development of Sheet Metal Stamping in Connection With the Use of Automatic Rotary Transfer Machines

31

Mechanical and hydraulic rotary transfer machines are described. The flexibility of these machines allows facility of control, inclusion of chemical and heat treatment in the process, and smooth transition into fully automatic lines.

Card 3/9

New Features (Cont.)

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Freydlin, A.Ya. [Candidate of Technical Sciences,
Gor'kovskiy avtozavod (Gor'kiy Motor Vehicle Plant)].
Problem of Increasing the Number of Strokes on Presses

49

The influence of the speed of deformation on properties of metals is mentioned, and the effect of the working speed on the behavior of metals during cutting and forming operations is discussed. Information on the characteristics and design of different types of presses is presented.

Isachenkov, Ye.I., [Candidate of Technical Sciences].
Bases for Selection of Lubricants for High-productivity
Sheet Metal Forming

67

The influence of friction forces on the course of the forming process is explained. Distribution of stresses and its relation to lubrication is described. The use of hydrodynamic [wedge film] lubrication is discussed; formulas for forces and stresses in the drawing process are derived; and the effect of temperature increases on the viscosity of lubricants is treated.

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New Features (Cont.)

SOV/2294

Gorbunov, M.N. [Candidate of Technical Sciences, Docent, AviatSIONno-tekhnologicheskii institut, Moskva (Moscow Aviation Technology Institute)]. Significance of Local Heating of Blanks in Increasing the Productivity of Sheet Metal Stamping

85

Distribution of stresses and temperatures during local heating in the deformed zone of tubular workpieces is analyzed. Formulas are presented.

Solovtsov, S.S. [Engineer, Zavod imeni Semashko, Moskva (Moscow Plant imeni Semashko)]. Significance of Tubular Blanks and Local Preheating in Reducing Man-hours in Forming Operations

106

Advantages of using tubular blanks in making thin-walled shell-type parts by reducing and bulging operations are discussed. Local preheating for bulging is accomplished by heating the punch. Special features and the Efficiency of this method are also discussed.

Mikhalenko, F.P., [Candidate of Technical Sciences, Docent,

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New Features (Cont.)

SOV/2294

Politekhnicheskiy institut, g. Gor'kiy (Gor'kiy Polytechnical Institute)]. Special Features of Blanking With an Increased Number of Strokes

131

The author describes research done on this process in the cold-stamping department of the "Trud" Plant and the laboratory of the Department of Machinery and Metal Forming, GPI imeni A.A. Zhdanov. A.A. Samoylov, department head, and N.S. Gilevich, process engineer, took part in the investigations made at the "Trud" Plant, and K.V. Semenov, Candidate of Technical Sciences, participated in the work done at GPI. The article describes changes in punch and die dimensions and clearances in relation to changes in the number of strokes per minute and the number of parts cut out. Optimum clearances, minimum resistances, punching forces and energy consumption at various working speeds are discussed.

Card 6/9

New Features (Cont.)

SOV/2294

Artes, A.E. [Engineer, Moscow Machine Tool and Instrument Institute]. Press Blocking With the Use of Radioactive Isotopes

148

The article presents information on the use of beta-radiation to stop presses in processes where two or more blanks are being fed, and on the principle of operation and the description of a beta-ray electronic relay. Suggestions for placing the emitter and receiver are given, and safety measures are discussed.

Artem'yev, S.I. [Engineer, Gorkiy Motor Vehicle Plant]. New Features in the Automation of Sheet Metal Stamping at the Gorkiy Motor Vehicle Plant

160

The article discusses devices for automatic removal of formed parts from the press, devices for automatic feeding of sheet metal into the die, and devices for complete automation of the forming process.

Card 7/9

New Features (Cont.)

SOV/2294

Nikolayev, V.V., and B.V. Sorokin [Avtozavod imeni Likhacheva, Moskva (Moscow Motor Vehicle Plant imeni Likhachev)] Experience of the Motor Vehicle Plant imeni Likhachev with High-productivity Progressive Die Sets

169

Compound, combination, and progressive die sets with rectilinear and circular feeding motion of blanks are described. Mechanization of feeding and removal of stamped parts and scrap are discussed.

Filina, I.S. [Engineer, Zavod "Krasnaya Zarya," Leningrad (Leningrad "Red Sunrise" Plant)]. Transfer Machine for Mixing Contact Springs

199

Arrangement and operation of a universal transfer machine for making springs for flat relays is described. Reductions in costs, time, and man-hours are shown.

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PHASE I BOOK EXPLOITATION

SOV/4961

Akademiya nauk SSSR. Institut mashinovedeniya

Tekhnologicheskiy smazki dlya obrabotki metallov davleniyem (Industrial Lubricants Used in Pressworking of Metals) Moscow, Mashgiz, 1960. 96 p. 5,000 copies printed.

Sponsoring Agency: Institut mashinovedeniya Akademii nauk SSSR.

Ed.: A. V. Korolev, Candidate of Technical Sciences; Ed. of Publishing House: G. N. Soboleva; Tech. Ed.: L. P. Gordeyeva; Managing Ed. for Literature on Heavy Machine Building: S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for scientific and technical personnel, production engineers, and students in schools of higher technical education and tekhnikums.

COVERAGE: The book contains articles analyzing the research on industrial lubricants used in pressworking of metals conducted by various institutes and plant laboratories. It is stated that these lubricants improve the metal-forming process and increase the wear resistance of tools (dies), thereby

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Industrial Lubricants Used (Cont.)

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increasing the quantity and quality of production. Also included are papers discussed at an All-union convention on industrial lubricants held under the auspices of the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission for Machine-Building Processes of the Institute of Science of Machines, AS USSR). No personalities are mentioned. References accompany some articles and are all Soviet.

TABLE OF CONTENTS:

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Korolev, A. V. On the Problem of Testing Industrial Lubricants Used in Cold Stamping of Sheet Steel	15
Davydor, Yu. P. Friction and Lubrication in Stamping Sheet Steel and Alloys	24

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S/137/61/000/001/008/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, p. 17, # 1D155

AUTHOR: Isachenkov, Ye.I.

TITLE: The Application of Principles of the Hydrodynamical Theory of Lubrication to Cold Press-Forming Processes

PERIODICAL: V sb.: "Tekhnol. smazki dlya obrabotki metallov davleniyem", Moscow, Mashgiz, 1960, pp. 3 - 14

TEXT: The author discusses factors influencing the mechanical effect of lubricants, intensifiers and extensifiers of external friction. Experiments are described on investigating the influence of viscosity on the lubricating effect of greases at high contact pressures. Increasing viscosity first reduces the stress during extrusion and, after having attained optimum reduction, increases again the stress. Optimum viscosity of the lubricant decreases with a higher extrusion speed and depends on the pressure between the blank and the extrusion rib of the die. When evaluating the lubricant, thermostability must be taken into account. ✓

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PHASE I BOOK EXPLOITATION

SOV/6161

Isachenkov, Yevgeniy Ivanovich

Shtampovka detaley iz nerzhaveyushchey stali (Stamping of Stainless Steel Parts).
Moscow, Mashgiz, 1962. 53 p. (Bibliotekha shtampovshchika, vyp. 9)
Errata slip inserted. 9,000 copies printed.

Ed. (Title page): V. P. Romanovskiy, Candidate of Technical Sciences; Ed.:
V. Ye. Nedorezov, Candidate of Technical Sciences; Ed. of Publishing
House: G. N. Kurepina; Tech. Ed.: A. A. Bardina; Managing Ed. for
Literature on Machine-Building Technology (Mashgiz): Leningrad Depart-
ment, Mashgiz; Ye. P. Naumov, Engineer.

PURPOSE: This booklet is intended for engineering personnel of stamping shops
and industrial planning institutes.

COVERAGE: Technological fundamentals of stamping parts from stainless steel
sheets are discussed, and various types of dies and special devices are
described. No personalities are mentioned.

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Stamping of Stainless Steel Parts

SOV/6161

There are 8 references: 7 Soviet, and 1 English.

TABLE OF CONTENTS:

Ch. I. Basic Information on Stainless Steel	3
1. Classification and physico-mechanical properties of stainless steel	3
2. Specifications for stainless steels used for cold stamping	8
Ch. II. Blanking of Stainless Steel Sheets	11
Ch. III. Forming of Stainless Steel Parts	13
3. Bending with metal dies	16
4. Bending and forming with rubber die	16
5. Forming with metal dies	22
6. Forming of the sheet blank with rubber, hydraulic, or gas punch and a rigid die	27

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Stamping of Stainless Steel Parts

SOV/6161

- 7. Forming from three-dimensional preforms with elastic, hydraulic, or gas punch 37
- 8. Forming with elastic or hydraulic die and a rigid punch with flange clamping 46

Ch. IV. Prospects for Improving the Process of Cold-Stamping
Stainless Steel in Machine Building

51

Bibliography

55

AVAILABLE: Library of Congress

SUBJECT: Metals and Metallurgy

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DV/wb/mas
2-5-63

PHASE I BOOK EXPLOITATION

SOV/6300

Isachenkov, Ye. I.

Shtampovka rezinoy i zhidkost'yu (Rubber and Liquid Die Forming) Moscow, Mashgiz, 1962. 327 p. Errata slip inserted. 6200 copies printed.

Reviewer: V. T. Meshcherin, Doctor of Technical Sciences, Professor;
Ed. of Publishing House: Yu. L. Markiz; Tech. Ed.: G. V. Smirnova;
Managing Ed. for Literature on Hot-Working of Metals: S. Ya. Golovin,
Candidate of Technical Sciences.

PURPOSE: This book is intended for engineering personnel of machine-building plants and scientific research institutes. It may also be useful to students at schools of higher technical education.

COVERAGE: The book reviews the basic principles and engineering prospects of rubber and liquid die forming processes, used in machine building for

making parts from a metal sheet. It also explains the principles of classifying sheet parts and the various production processes. No personalities are mentioned. There are 64 references: 42 Soviet, 20 English, and 2 German.

S/902/62/000/000/015/015
E193/E383

AUTHOR: Isachenkov, Ye. I.

TITLE: Forming of radially-corrugated tubes (bellows) with the aid of a rubber punch

SOURCE: Novyye protsessy obrabotki metallov davleniyem; doklady Soveshch. po novym prots. obrab. met. davleniyem v mashinostr., 1960. Ed. by V. D. Golovlev. Moscow, Izd-vo AN SSSR, 1962. 181 - 187

TEXT: The principle of the process discussed in the present paper is demonstrated in Fig. 1E, showing the relative position of the die, tube, rubber punch and compressing piston before (I) and after (II) the forming operation. Formulas were derived for the magnitude of principal deformations in the tangential and meridian directions, for the wall-thickness of the tube in the corrugations and for the pressure required to form the corrugations. Analysis of the results obtained indicated that in applying the process under consideration it was necessary to reduce the friction between the die and the tube and increase the friction between the

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Forming of radially-corrugated tubes.. S/902/62/000/000/015/015
E193/E383

tube and the rubber punch. Under these conditions the compressive stresses due to the friction forces can approximate, or even exceed, the yield stress of the tube material. This makes the process particularly attractive owing to its simplicity and high quality of the finished product (good surface finish, minimum degree of work-hardening of the surface layer, minimum reduction in the tube-wall thickness). The pressure exerted by the rubber punch increases with increasing strength of the tube material, increasing wall thickness, increasing viscosity of the lubricant and increasing speed of the process; the pressure decreases sharply with increasing length of the effective contact between the rubber punch and the cylindrical part of the die. There are 2 figures.

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L 23054-66

EWI(d)/EWI(m)/EWP(w)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(l)/

ACC NR: AP5028993 ETC(m)-6 JD/HW/DJ SOURCE CODE: UR/0182/65/000/009/0001/0008

AUTHOR: Isachenkov, Ye. I.; Mishunin, V. A.

ORG: none

TITLE: Prospects for intensifying the processes of cold pressing

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 9, 1965, 1-8

TOPIC TAGS: cold forging, metal pressing, lubricant, extrusion, plasticity, material deformation, metallurgic research

ABSTRACT: Despite its great promise, the cold-pressing (extrusion) process still is not employed on an adequate scale in machine building, particularly in the fabrication of parts from high-strength nonferrous and ferrous alloys. This problem can be resolved by accomplishing the following tasks: 1. Development of a hydrodynamic lubricating regime and the elimination of the considerable energy losses due to galling. The hydrodynamic theory of friction makes possible a sufficiently complete description of the basic patterns of the effects accompanying various conditions of cold forging. 2. Uniform propagation throughout the blank of the conditions of flowage arising in the surface layer of the blank during forming; this is accomplished by compressing the blank so that the hydrostatic pressure in the zones of free flowage of the material would be commensurate with the deformation resistance of the material of the

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UDC: 621.983.1

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ACC NR: AP5028993

2
blank. 3. Selection of an optimal blank-forming regime corresponding to a minimum of the required forming energy. Each of these conditions is extremely effective in intensifying the various processes of cold forming, but the maximum effect in forming high-strength and low-plasticity metals and alloys can be produced only if all three conditions are simultaneously satisfied. Processes for which all three conditions may be satisfied are exemplified by cold forming with counter-pressure by a solid or, particularly, a liquid. Thus, the main trend in the intensification of cold-pressing processes should be based on the regulation (with the aid of lubricants of optimal viscosity) of the forces of contact friction, the development of optimal stress-strain diagrams and the selection of energetically optimal cold-forging regimes. Orig. art. has: 10 figures and 1 table.

SUB CODE: 11, 13, 20/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 000

Card 2/2. *fl*

ISACHENKOV, YE. K.; PIKHTOVNIKOV, R. V.

Sheet Metal Work

Effect of the speed of deformation on the process of stamping parts from steel sheet,
Vest. mash., 32, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, 2, Unclassified.

ISACHKIN, B. Ya. (Panza).

Using slide rules in computation lessons. Mat. v shkole no. 6:54-61
M-D '58. (MIRA 11:12)

(Slide rule)

ISACHKIN, B.Ya. (Penza)

Solving quadratic equations with the slide rule. Mat. v shkole
no.3:61-63 My-Je '59. (MIRA 12:9)
(Equations, Quadratic) (Slide rule)

KONTOROVICH, P.G.; KURBATOV, V.A. (Sverdlovsk); GUTMAN, A.Ya. (Moskva);
DEYNEGA, A.V. (Kiyev); ISACHKIN, B.Ya. (Penza); NETRONINA, N.G.
(Tambov); PONOMAREV, V.S. (Izhevsk); SELIVANOV, D.P. (Korsun'-
Shevchenkovskiy, Cherkasskaya obl.); KOLIKOV, A.F. (Kalinin);
SHOR, Ya.A. (Moskva); IVANOV, M.I. (Tula)

Discussion of the new mathematics curricula. Mat. v shkole no.3:
4-20 My-Je '59. (MIRA 12:9)
(Mathematics)

ISACHKIN, B.Ya. (Penza)

Lessons on calculations with the aid of the slide rule in the
10th grade. Mat. v shkole no.5:35-41 S-O '59. (MIRA 13:2)
(Slide rule)

ISACHKIN, B.Ya. (Penza)

Special aspects of teaching mathematics in the evening (staggered)
secondary schools. Mat.v shkole no.4:58-60 JI-Ag '62.

(Mathematics--Study and teaching) (MIRA 15:11)

ISACHKIN, B.Ya. (Penza); MALININ, V.V. (Leningrad); BOGDANOV, I.M.;
SENNOVSKAYA, F.V., obshchestvennyy metodist; ASKEROV, K. (Baku)

Draft program for mathematics in grades 9 to 11 of evening
(staggered) secondary schools of general education. Mat. v
shkole no.3:57-59 My-Je '63. (MIRA 16:7)

1. Inspektor po shkolam rabochey molodezhi Kalininskogo rayona
Moskvy (for Bogdanov).
(Mathematics—Study and teaching)

BUSILA, V.T.; POP, O.; VASILESCU, I.; TOPCIU, VI.; POPIAN, R.; CUCURUZ, L.;
ALEXANDRESCU, R.; ISAGSON, I.; SON, C.; GRAVCEVSCHI, V.; ZILBERMAN, L.;
FITARAU, A.; JICMAN, R.

Clinical study of leptospirosis. Stud. cercet. inframicrobiol., Bucur.
8 no.2:259-280 1957.

1. Comunicare prezentata la Institutul de inframicrobiologie al
Academiei R.P.R. in sedinta din 5 martie 1956.

(LEPTOSPIROSIS

pathol. & epidemiol. of *L. pomona*, *L. canicola* & other
leptospiral infect. in Rumania, case reports & review)

ISADNCV, P. F.

Fishing - Implements and Appliances

Drop hammer with head for driving in seine stakes. Ryb. khoz., 28, No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1954. Unclassified.

1. ISAD07, P. M.
2. USSR (600)
4. Iron - Analysis
7. Qualitative detection of iron in ores and minerals by means of trituration. Nauch.
biul Len un No. 30 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

AUTHORS: Glotov, V.V., Lysenko, M.A., Parshina, V.M., Sokolova, N.A.,
Isadskaya, T.A., Engineers SOV/118-56-12-9/17

TITLE: The Economical Effectiveness of a Centralized Electric Power
Supply for Lumbering Sites (Ekonomicheskaya effektivnost'
tsentralizovannogo elektrosnabzheniya na lesozagotovkakh)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958., Nr 12,
pp 29 - 35 (USSR)

ABSTRACT: The article deals in detail with the calculation of the
operational expenses at lumbering sites, using electric
power instead of oil driven engines. The research leads to
the conclusion that under definite conditions, the electri-
fication of the lumbering industry proves to be economically
more efficient as compared with the utilization of oil-fuel-
led mechanisms. There are 7 tables, and 1 graph.

Card 1/1

GULAMOV, R.O.; ZAYKO, G.I.; ZOTOV, A.N.; ISADZHANOVA, Kh.K.; SOKOLOV,
Yu.A.; SHILOVER, A.Ya.; TSUKERMAN, M.P.; USTIMENKO, I.L., red.;
BAKHRIYAROV, A., tekhn.red.

[Tashkent; concise reference book] Tashkent; kratkii spravochnik.
Isd.2., dop. Tashkent, Gos.isd-vo Uzbekskoi SSR, 1958. 190 p.
(Tashkent--Guidebooks) (MIRA 13:3)

Card 1/1

BOIADZHENOVA, M.; MILEV, M.; ISAEV, Iv.

Experience with the preparation of complexes in the form of dry extracts and tablets. II. Nauch. tr. vissh. med. inst. Sofia 39 no.5: 133-138 '60.

1. Predstavena ot prof. T. Trandafilov, rukovoditel na Katedrata po tekhnologiya na lekarstvenite formi i galenovi preparati.

(TABLETS) (PHARMACY)

BOIADZHIEVA, M.; MILEV, M.; ISAEV, Iv.

Experience with the preparation of complexes in the form of liquid extracts, dry concentrates and tablets. I. Nauch. tr. vissh. med. inst. Sofia 39 no.5:139-143 '60.

1. Predstavena ot prof. T. Trandafilov, rukovoditel na Katedrata po tekhnologiya na lekarstvenite formi i galenovi preparati.

(PHARMACY) (TABLETS)

ISAEV, Iv.; BOIADZHIEVA, M.

Production of galenic and neo-galenic preparations and experience with the isolation of active substances from *Leonurus cardiaca*, Nauch. tr. vissh. med. inst. Sofia 39 no.5:145-152 '60.

1. Predstavena ot prof. T. Trandafilov, rukovoditel na Katedrata po tekhnologiya na lekarstvenite formi i galenovi preparati.

(PLANTS MEDICINAL)

ISAEV, Iv.; BOIADZHIEVA, M.; MILEV, M.

Production of tablets of *Leonurus cardiaca* alone and in combination with nucleovasan, phenylurea and other drugs. Nauch. tr. vissh. med. inst. Sofia 41 no.4:33-37 '62.

1. Predstavena ot prof. d-r T. Trandafilov.
(ANTICONVULSANTS) (ANTIHYPERTENSIVE AGENTS)
(HYPNOTICS AND SEDATIVES) (PLANTS, MEDICINAL)

PASKOV, D.; ZHELIAZKOV, D.; ISAEV, Iv.; BOIADZHIEVA, M.; MILEV, M.

Production and pharmacological analysis of a purified Digitalis
ambigua cardiac preparation. Nauch. tr. vissh. med. inst.
Sofia 41 no.4:39-50 '62.

1. Predstavena ot prof. P. Nikolov.
(DIGITALIS GLYCOSIDES)

LABORATORY FOR PHARMACOLOGY

ISAEVA, M.

First step toward inventiveness. Nauka i tekhnika i mladezh 13
no.12:8-9 D '61.

ISAGALIYEVA, M.M.

Penicillin for treating progressive paralysis. Trudy Inst.kraev.pat.
AN Kazakh.SSR 1:123-132 '52. (MIRA 10:2)
(PENICILLIN) (PARALYSIS)

L 07227-67 EWF(j) LJP(c) RM/DS
ACC NR: A26026502

SOURCE CODE: YU/0002/66/000/004/0209/0213

AUTHOR: Inaguljanc, V. I. (Academician; Professor); Desukki, A.

30
29
B

ORG: Moscow Institute for Oil and Gasoline Chemistry, Moscow (Moskovski institut za naftu i petrokemiju)

TITLE: Polymerization of certain unsaturated hydrocarbons in presence of cation exchange resins

SOURCE: Kemija u industriji, no. 4, 1966, 209-213

TOPIC TAGS: ion exchange resin, hydrocarbon, unsaturated hydrocarbon, polymerization, catalytic polymerization, polyisobutylene

ABSTRACT: The article is a translation of a lecture given in September of 1965 which dealt with the polymerization of tertiary unsaturated hydrocarbons in presence of cation exchange KU-2 resins. The polymerization of isobutylene and isoamylene yields generally unsaturated dimers and trimers, whereas the polymerization of α -methystyrene and its homologues yields mostly saturated dimers with some unsaturated trimers. Optimum conditions for polymerization are given, and it is shown that α -methylstyrene and its homologues show differing tendencies toward polymerization. The polymerization of p, α -dimethylstyrene, p-ethyl- α -methylstyrene, and p-isopropyl- α -methylstyrene in presence of cation exchangers has been studied for the first time as was the

Card 1/2

UDC: 661.715.3.095.264

L 07227-67

ACC NR: AP6026502

copolymerization reaction of α -methylstyrene¹ with isobutylene and isoamylenes.
Compounds were identified by infrared and ultraviolet rays. Orig. art. has: 7 tables
and 2 figures.

SUB CODE: 07/ SUBM DATE: none

me
Card 2/2

POPO. N.F.; ISAGULOV, T.I.

Using metal supports in soft ground. Nauch. trudy KNIUI no.14:153-
162 '64. (MIRA 18:4)

YERSHOV, V.Z. [Iershov, V.Z.]; ISAGULOVA, O.Z. [Isagulova, O.Z.]

Jurassic sediments overlying the coal-bearing layer of the Lvov-Volyn' Carboniferous and materials on their stage. Visnyk
L'viv.un. Ser.geol. no.1:21-24 '62. (MIRA 16:7)
(Lvov-Volyn Basin--Geology, Stratigraphic)

ISAGULOVA, Ye.Z.

Hystriospheridia in Jurassic deposits of the Lvov-Volyn' Coal
Basin. Dokl. AN SSSR 148 no.5:1156-1158 F '63. (MIRA 16:3)

1. L'vovskiy gosudarstvennyy universitet im. Ivana Franko.
Predstavleno akademikom V.N. Sukachevym,
(Lvov-Volyn' Basin - Paleobotany)

ISAGULOVA, Yo.2.

Palynological characteristics of Middle Jurassic sediments
in the southwestern margin of the Russian Platform and
Carpathian piedmont fault. Vest. L'vov. un. Ser. geol. no.2:
36-40 '64. (MIRA 19:1)

Determination of the adsorption coefficients by the reaction-kinetic method in the dehydrogenation of hydroaromatic hydrocarbons. A. A. Rabinin and G. V. Isaakova. *Doklady Akad. Nauk S.S.S.R.* 65, 130-2 (1948); cf. following abstract. The relative adsorption coefficients, $\alpha = a/a_0$, where $a = \text{abs. adsorption coeff.}$, the subscripts 1 and 0 corresponding, resp., to the cycloparaffin and to the product of the dehydrogenation (aromatic hydrocarbon or H_2), were calculated by $\alpha = [(m/m_0) - 1]/(100/p) - 1$ ($m = \text{rate of evolution of H}_2$ in vol. 10 min., from a mixt. of $p\%$ cycloparaffin and the corresponding aromatic hydrocarbon or H_2 , $m_0 = \text{the same rate with the pure cycloparaffin}$), from data of m on a Cr_2O_3 catalyst on asbestos (I), with the binary mixt.: methylcyclohexane (I) - PhMe, at 400°, $p = 100$, 70.3, 55.2, 40.2, hexane (I) - PhMe, at 400°, $p = 100$, 70.3, 55.2, 40.2, $m = 122, 101, 72.5, 55.2$; I - H_2 , at 401°, $p = 100$, 67, 40, $m = 124, 101, 102$; 1,3-dimethylcyclohexane (II) - xylene, at 474°, $p = 100$, 70.5, 48.5, 27, $m = 85, 65, 43.5$. The α calcd. from these data, are very nearly independent of p ; thus, for the above 3 systems, resp., $\alpha = 0.84, 0.80, 0.60$, and 0.92, for cyclohexane - C_6H_6 , 0.85, for 2-tetraphenylmethane (III) - C_6H_6 , 0.85, for 2-(C_6H_5)₂Me, 1-methyl-5,6,7,8-tetraphenylmethane (IV) - 2-(C_6H_5)₂Me, 0.83; α is practically independent of the temp., e.g., for 0.33, between 410 and 406°, in complete analogy C_6H_6 - C_6H_6 , between 410 and 406°, in dehydrogenation of with the temp. independence of α in dehydrogenation of dimethylcyclohexane on Ni and Al_2O_3 between 200 and 200°, of C_6H_6 on Cr (Bork and B., C. A. 30, 62748; Bork, C. A. 31, 279). Cr (Bork and B., C. A. 30, 62748; Bork, C. A. 31, 279). For the pairs cyclohexane- C_6H_6 , I-PhMe, II-m- $\text{C}_6\text{H}_5\text{Me}$, III- C_6H_6 , and IV-2- $\text{C}_6\text{H}_5\text{Me}$, α for H_2 is calcd., resp., to be

0.05, 0.10, 0.52, 0.37, and 0.10; the free energy of eviction of the aromatic hydrocarbon from the active centers by the corresponding cycloparaffin, at 450°, is, resp., 250, 58, 120, 1500, and 1580; the corresponding free energy for the eviction of H₂ by the cycloparaffin, resp., 840, 760, 940, 1400, and 1300. The adsorption coeffs. of the cycloparaffins, relative to that of H₂, are, resp., 1.51, 1.04, 1.06, 2.61, and 2.50, those of the aromatic hydrocarbons, 1.30, 1.00, 1.75, 0.05, and 0.81. In all these cases, the cycloparaffins show a much greater affinity for the catalytically active centers than the products of dehydrogenation. The adsorption coeffs. increase with the no. of Me groups.

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CLASSIFICATION		PROCESSING AND PROPERTY INDEX	
<p>Kinetics of the catalytic dehydrogenation of cyclic hydrocarbons on chromium oxide. A. A. Balashin and G. V. Isakova. <i>Dokl. Akad. Nauk S.S.S.R.</i> 22, 201-4 (1968). Cf. preceding abstr. For the 5 dehydrogenation reactions listed in the foregoing abstr., the apparent activation energies Q were determined assuming zero-order reaction and using m as a reaction rate constant from the linear plots of $\log m$ (for the notation, see the foregoing abstr.) against $1/T$, giving, for the dehydrogenation of cyclohexane, I, II, III, and IV, resp., $Q = 23.0, 23.7, 22.5, 20.7$, and 30.4 kcal./mole. With the aid of the x values given in the foregoing abstr., the reaction rate constants, D calculated by the equation of B. Roglanova, and Shcheglov (C.I. 42, 6218) are very little different from m, and, consequently, the true activation energies E are very little different from Q. The constants D depend only on the temperature and the partial pressures of the reactants; thus, in the system H_2-C_6H_{10} at 472°, D remains practically constant ≈ 100.7 sec$^{-1}$ at the feed rates I_1 and I_2 (I_1 = feed rate of the cyclohexane, in ml. H_2 equiv. to complete dehydrogenation, per 10 min.; I_2 = the same for the aromatic hydrocarbon) 130 and 120, 362 and 398, 151 and 450, and the same value of $D \approx 100$ is found, at 474°, with $I_1 = 610$, $I_2 = 0$. The complete kinetic equation can be written down for each system on the basis of the general equation (B. C.I. 37, 2645): e.g., for the system with V, it is $2.003[(I_1 + I_2)0.231 + 2(I_1 + I_2)0.40] \log [I_1/(I_1 - m)] = 0.13 m = D(I_2 \approx \text{feed rate of } H_2)$.</p>		<p>It permits prediction of the degree of conversion under stated conditions, e.g., with $I_1 = 313$, $I_2 = 102$, $A_2 = 0$, with the expl. $D = 100$, one calculates $m = 72.7$ ml./10 min. and $m/I_1 = 23.2\%$, in agreement with the expl. 23.3%. The values of x obtained previously (cf. foregoing abstr.) and the values of $D = k/t$ (a cross section of the catalyst tube, l = length of the column) now obtained in a flow system satisfy the differential equation $dH/dt = k(I_1/(I_1 - H)) + k(I_2/(I_2 - H))$ underlying the above kinetic equation.</p>	
<p>AD 554 DETAILING LITERATURE CLASSIFICATION</p>		<p>AD 554 DETAILING LITERATURE CLASSIFICATION</p>	

ISAGULYANTS, G. V.

:A 25/4916

USSR/Chemistry -- Cyclohexane, Jan 49
Dehydrogenation
Chemistry -- Naphthalene, Decahydro

"The Orientation of Decalin and Cyclohexane Molecules on Oxide and Metallic Catalysts During Dehydrogenation," Acad A. A. Balandin, G. V. Isagulyants, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 2

Experimentally confirms that cyclohexane must dehydrogenate faster than decalin when their molecules are smoothly oriented on catalyzer's surface, which might be expected on basis of multiplet theory. Submitted 20 Nov 48.

25/4916

ISAGULYANTS, G. V., KEYER, N. P., KLIMENCK. B. V.

Ethanes

Preparation of acetylene and ethane tagged by radiocarbon C 14. Dokl. AN SSSR 85, No. 5, 1952.

Radioactive acetylene was prepd from barium carbide contg C¹⁴ and water. Radioactive ethane was prepd from the tagged acetylene by means of hydrogenation over a Ni catalyst at room temp. Submitted by Acad A. N. Frum 12 Jun 52.

239T13

9. Monthly List of Russian Accessions. Library of Congress, December 195~~8~~₂. Unclassified.

ISAGULYANTS, G. V., KETTER, N. T., and LIDENON, B. V.

"Preparation of Acetylene and Ethane Tagged with C^{14} ," Sb. po Obshch, Khimii. Izd-vo AN SSSR, M. EL., Vol 2, pp 1566-1569, 1953

Developed a laboratory method for the preparation of acetylene tagged with C^{14} . Method consists of heating radioactive barium carbonate with magnesium to produce radioactive barium carbide. The barium carbide then yields radioactive acetylene when treated with water, and the acetylene can be hydrogenated over a nickel catalyst to give radioactive ethane. (RZhKhim, No 22, 1954)

Sum. No. 681, 7 Oct 55

ISAGULYANTS G. V.; KEYER N. P.; and KLIMENOK B. V.

Preparation of Acetylene and Ethane Tagged with Radioactive Carbon C^{14} ,
Page 1566, Sbornik statey po obshchey khimii (Collection of Papers on
General Chemistry), Vol II, Moscow-Leningrad, 1953, pages 1680-1686.

Inst of Physical Chemistry, Acad Sci USSR

ISAGULYANTS, G. V.

11 Aug 53

USSR/Chemistry - Isotopes

"The Preparation of Caproic Acid Tagged with Radioactive C^{14} in the Carboxyl Group,"

G.V. Isagulyants, Ye.A. Andreyev, and N.A. Kosolapova

DAN SSSR, Vol 91, No 5, pp 1123-1124

Using the Grignard reaction prepd caproic acid having C^{14} in the carboxyl group. Reacted
amyl-Mg-bromide with $C^{14}O_2$ prepd from $BaC^{14}O_3$. Yield of caproic acid was 91% of
theoretical. Presented by Acad A.N. Frumkin 13 Jun 53.

26678

ISAGULYANTS, G.V.

Synthesis of acetaldehyde and ethyl alcohol labeled with carbon-14. G. V. Isagulyants and O. A. Golovina. *Doklady Akad. Nauk SSSR* 205: 1029-31 (1983). To warm soln. of 5 ml. concd. H_2SO_4 in 11 ml. H_2O was added 0.5 g. H_2O and the vessel was evacuated to 1 mm. after which C^{14} was passed into the app. at 15-15° (at 30° the yield drops and the product is dark). The resulting AcH was steam distd. through a water cooled reflux condenser into a receiver chilled in liquid N_2 distn. gave 75-85% AcH ; the C^{14} used in the above had been labeled with C^{14} (C.A. 47, 5348). Hydrogenation of C^{14} -labeled AcH over Raney Ni at 170° readily gave C^{14} -labeled $EtOH$ in 60-75% yield based on C^{14} .
G. M. Kozolupoff

ISAGULYANTS, G.V.

PHASE I BOOK EXPLOITATION 1181

3
Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] IX: Izotopy v katalize (Problems of Kinetics and Catalysis. [v] 9: Isotopes in Catalysis) Moscow, Izd-vo AN SSSR, 1957. 442 p. 3,500 copies printed.

Eds: Roginskiy, S.Z., Vinogradova, O.M., Keyer, N.P. and Yanovskiy, M.I., Corresponding Members, USSR Academy of Sciences; Ed. of Publishing House: Vasserberg, V.E.

PURPOSE: This book is for specialists interested in the theoretical and practical problems of the application of isotopes in catalysis.

COVERAGE: This collection of articles forms volume 9 of "The Problems of Kinetics and Catalysis." Most of the papers were presented at the Conference on Isotopes in Catalysis which took place in Moscow, March 31 - April 5, 1956. Scientists from the Academy of Sciences of

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Problems of Kinetics and Catalysis (Cont.) 1181

of the USSR, the Ukrainian Academy of Sciences, institutes of the chemical and petroleum industries, and several vuzes took part. Scientists from the six people's republics China, GDR, Poland, Czechoslovakia, Hungary and Rumania also participated. This conference was the first of its sort not only in the Soviet Union, but internationally. Several articles which could not be included in the program of the conference are given in the text. Each article has figures, tables, and a bibliography.

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3

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ISACULYANTS, G. V., BOGDANOVA, G. K., BALANDIN, A. A., REYMAN, M. B., and KOPOV, Ye. I.

"Application of radio-carbon in investigating the mechanism of consecutive reactions of butane-butylene-divinyl," a paper submitted at the International Conference on Radioisotopes in Scientific research, Paris, 9-20 Sep 57.

ISAGULYANTS, G.V.

1. Inst. organicheskoy khimii im. N. D. Zelinskogo i inst. khimicheskoy
fiziki Akad. Nauk SSSR.

BALANDIN, A.A.; NEYMAN, M.B.; BOGDANOVA, O.K.; ISAGULYANTS, G.V.;
SHCHEGLOVA, A.P.; POPOV, Ye.I.

Process of carbon dioxide formation in obtaining divinyl from
butane-butylene mixtures. Izv.AN SSSR.Otd.khim.nauk no.3:270-278
(MLRA 10:5)
Mr '57.

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk
SSSR i Institut khimicheskoy fiziki Akademii nauk SSSR.
(Carbon dioxide) (Butane) (Butylene)

ISAGULYANTS, G.V.

BALANDIN, A.A.; NEYMAN, M.B.; BOGDANOVA, O.K.; ISAGULYANTS, G.V.; SHCHENKOLOVA,
A.P.; POPOV, Ye.I.

Dehydrogenation of butane - butylene mixtures using tagged atoms.
Probl. kin. i kat. 9:45-60 '57. (MIRA 11:3)
(Dehydrogenation) (Butane)

ISAGULYANTS, G.V.

Discussion. Probl. kin. i kat. 9:215-216 '57. (MIRA 11:3)
(Dehydrogenation) (Butane) (Butylene)

BALANDIN, A. A., ~~XE~~ BOGKANOVA, O. K., ISAGULYANTS, G. V., NEYMAN, Yu. V., and POPOV, Ye. I.
(Inst. of Organic Chem. AS USSR.)

"Investigation of the Mechanism of Successive Reactions Butane-Butylene-Divinyl
by Using Radioactive Carbon C¹⁴." p. 52.

Isotopes and Radiation in Chemistry, Collection of papers of
2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and
Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the
2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation
in Science and the National Economy, sponsored by Acad Sci USSR and Main
Admin for Utilization of Atomic Energy under Council of Ministers USSR
Moscow 4-12 Apr 1957.

ISAGULYANTS G. V. 62-1-0/29

AUTHORS: Balandin, A. A., Bogdanova, O. K.,
Isagulyants, G. V., Neyman, M. B., Popov, Ye. I.

TITLE: The Application of Radioactive Carbon in the Comparison
Between the Dehydrogenation Velocities of Butane and Butylene
(Primeneniye radiougleroda dlya sravneniya skorostey
degidrogenizatsii butana i butilena).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1,
pp. 18-23 (USSR)

ABSTRACT: The investigation (with the application of C^{14}) was carried
out by means of a special catalyst under conditions especi-
ally favorable for the obtaining of divinyl. Since it turned
out that divinyl can be formed from butylene and that butane
cannot be transformed into divinyl, it was concluded that the
reaction (divinyl from butane) passes only through the stage
of the formation and desorption of butylene. Therefore the
desorption of butylene cannot be a final stage of the entire
reaction. The authors report on the carrying out of the in-
vestigation: The correlation between the dehydrogenation
velocity of butane and butylene in divinyl at the chromium
catalyst was found by means of computations -corresponding
to the experimental data obtained already before. It was

Card 1/2

The Application of Radioactive Carbon in the Comparison
Between the Dehydrogenation Velocities of Butane and Butylene

62-1-4/29

shown that the ratio of the velocities of the dehydrogenation of butane in butylene and of butane in divinyl is for both catalysts of the same order and corresponds to the ratio 20:1. In the experiments with chromium catalysts the velocity ratio in the formation of divinyl from butane corresponded to 1:1000 and in the experiments with an aluminochromium catalyst to 1:25. Furthermore it was confirmed that the formation of divinyl from butane takes place over the stage of the formation of butylene. It was shown that the constants (in the denominator of the kinetic equation of dehydrogenation) represent adsorption coefficients. There are 6 figures, 4 tables, and 5 references, 4 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR
(Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: January 4, 1957.

1. Butane-Dehydrogenation 2. Butylene-Dehydrogenation
Card 2/2 3. Carbon isotopes (Radioactive)-Applications 4. Chromium catalyst-Applications

Isagulyants, G. V.

AUTHORS: Balandin, A. A., Isagulyants, G. V., Popov, Ye. I., 62-2-18/28
Derbentsev, Yu. I., Vinogradov, S. L.

TITLE: The Application of Radioactive Carbon for the Investigation
of the Dehydration Mechanism of Ethyl Alcohol Over Aluminum
Oxide (Primeneniye radiougleroda dlya issledovaniya mekhan-
izma dehidratsii etilovogo spirta nad okis'yu alyuminiya).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2,
pp. 233-235 (USSR).

ABSTRACT: The problem of the above-mentioned dehydration mechanism has
long been discussed in publications. Various authors assume
that the formation of ethylene takes place over the stage of
the formation of the diethyl ether. Others, however, think
that ethylene and ethers form as a result of 2 independent
parallel reactions. For the purpose of solving this problem
the authors performed the dehydration of ethylene alcohol with
addition of diethyl ether. See formulae (2),(3),(4). As the
final result of the performed reactions showed, alcohol,
ether and ethylene possess a spicific radioactivity (see
figure 1). The authors determined: the dehydration velocity
of ethyl alcohol and ether in ethalene as well as the common

Card 1/2

The Application of Radioactive Carbon for the Investigation of the Dehydration Mechanism of Ethyl Alcohol Over Aluminum Oxide. 62-2-18/28

conversion of alcohol and ether over aluminum oxide at 300° C. They found that ethylene forms in two different ways: directly from alcohol, and over ether. There are 2 figures, 1 table, and 8 references, 6 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D. Zelinskiy (Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: September 21, 1957

AVAILABLE: Library of Congress

1. Carbon Isotopes (Radioactive)-Applications
2. Ethanol-Dehydration
3. Aluminum oxide-Applications

Card 2/2

,5(3)

AUTHORS:

Balandin, A. A., Isagulyants, G. V.

SOV/62-58-11-5/26

TITLE:

Dehydrogenation of Some Hydroaromatic Hydrocarbons on a Chromium Catalyst (Degidrogenizatsiya nekotorykh gidroaromaticheskikh uglevodorodov nad khromovym katalizatorom)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 11, pp 1303-1309 (USSR)

ABSTRACT:

In the present paper the authors especially tried to establish equal conditions of reaction for various hydrocarbons. For this reason the data determined may be compared qualitatively as well as quantitatively with each other. The authors applied the running-thru method. The general scheme of the apparatus corresponded to a similar scheme described in reference 1. The catalyst was produced according to the method described in reference 4. Its activity was constant and was controlled after dehydrogenation of cyclohexane. Dehydrogenation of cyclohexane, Dekalin, methyl cyclohexane, 1,3-dimethyl cyclohexane, Tetralin, 2-methyl-5,6,7,8-tetrahydro naphthalene was investigated on the chromium catalyst. The 4 compounds mentioned last were investigated for the first time. The

Card 1/3

Dehydrogenation of Some Hydroaromatic Hydrocarbons
on a Chromium Catalyst

SOV/62-58-11-5/26

activation energies of cyclohexane, methyl cyclohexane, 1,3-dimethyl cyclohexane, Tetralin, and methyl Tetralin were determined on the chromium oxide. The hydrocarbons similar in structure - cyclohexane, methyl cyclohexane, dimethyl cyclohexane, and Dekalin - are characterized by similar constants of the Arrhenius equation which, however, do not agree. The occurrence of methyl groups in the cyclohexane ring slightly reduces these constants. At high temperatures this leads to a considerable difference in dehydrogenation velocity. Tetralin and methyl Tetralin can be dehydrogenated at a greater number of active places than cyclohexane and its homologs. Dehydrogenation is in this case characterized by greater constants of the Arrhenius equation. For the dehydrogenation of all hydrocarbons mentioned the factors of the exponential functions are logarithmically dependent on the activation energy. The distribution constant is the same in all cases. There are 7 figures, 10 tables, and 5 references, 3 of which are Soviet.

Card 2/3

Dehydrogenation of Some Hydroaromatic Hydrocarbons
on a Chromium Catalyst

SOV/62-58-11-5/26

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: May 14, 1957

Card 3/3

S/081/62/000/001/007/067
B156/B101

AUTHORS: Minachev, Kh. M. Isagulyants, G. V., Kondrat'yev, D. A.

TITLE: Investigation of the poisoning of a platinum catalyst, in reforming conditions, by thiophene containing the radioactive isotope S^{35}

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1962, 73-74, abstract 1B540 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikh v neft'yakh i nefteproduktakh, v. 4". M., Gostoptekhzdat, 1961, 160-165)

TEXT: The general laws for the poisoning of platinized Al_2O_3 containing 5% Pt by thiophene labeled with radioactive sulfur, when dehydrogenating cyclohexane in a flow system at an H_2 pressure of 20 atm and a temperature of $450^{\circ}C$, are studied. Radiochemical analysis enabled the sulfur content of the catalyst to be determined, this varying between 0.063 and 0.14% according to the concentration of thiophene in the initial mixture. The activity of

Card 1/2

Investigation of the poisoning ...

S/081/62/000/001/007/067
B156/B101

the catalyst decreases linearly as its sulfur content is increased. The process of regeneration of the catalyst is accompanied by the removal of sulfur from it, but full activity is restored when the catalyst still contains ~40% of the sulfur which it contained before regeneration began.
[Abstracter's note: Complete translation.]

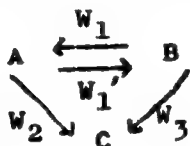
Card 2/2

33491

S/195/61/002/005/016/027
E030/E185

5.1190

AUTHORS: Isagulyants, G.V., and Balandin, A.A.
TITLE: The use of radiocarbon (C^{14}) in studying the mechanism of parallel-consecutive catalytic processes
PERIODICAL: Kinetika i kataliz, v.2, no.5, 1961, 737-740
TEXT: The use of radiocarbon is proposed to determine the stages and process of forming products in parallel-consecutive reactions, the general scheme of which is represented by:



(II)

where A is the initial product, B and C the products formed during the process. Three typical cases arise: for a reaction rate $W_2 \approx 0$, C is formed consecutively from A with B as intermediate; for $W_3 \approx 0$, B and C are formed from A in parallel but
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independent of each other; and when all the rates are commensurable, C is a product of a consecutive-parallel reaction. The formulae for the rates W_i are:

$$W_1 = \frac{d\beta}{d\tau} \cdot \frac{C_2}{(\alpha - \beta)} ; W_1' = \frac{d\alpha}{d\tau} \cdot \frac{C_1}{(\alpha - \beta)} ; \quad (1)$$

$$W_3 = \frac{C_3(d\gamma/d\tau) + (\gamma - \alpha)(dC_3/d\tau)}{\beta - \alpha} ; W_2 = \frac{dC_3}{d\tau} - W_3 ;$$

where α, β, γ are the specific activities and C_1, C_2, C_3 the concentrations of A, B, C, respectively; τ is the contact time. The authors were able to observe the above discussed cases in many processes by adding to the initial product A a small quantity of B or C marked with C^{14} and determining the changes in concentration and specific radioactivity in relation to contact time. One of these processes was that of the decomposition of ethyl alcohol investigated by the authors together with Ye.I. Popov and Yu.I. Derbentsav (Ref.3: Izv. AN SSSR, Otd.khim. n., 1958, 233). The decomposition was carried out in the

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temperature range 275 - 400 °C with aluminium oxide as catalyst. It occurs in two directions: into ethylene and into ethyl ether. At the lower temperatures, decomposition into ethylene was much slower than the dehydration reaction (reversible) into ethyl ether. As the temperature rose, the decomposition rate of ethyl alcohol into ethylene rose until at 400 °C it became comparable with that of the ether reaction. Thus, the concentrations of both alcohol and ether show maxima. As the temperature rises the ether maximum is produced not only by the direct alcohol-ethylene reaction, but also by decomposition of the ether to ethylene. At 400 °C where there is 100% conversion to ethylene, 80% of the ethylene is produced from the alcohol and 20% from the ether. The dehydrogenation of cyclohexane to cyclohexene and to benzene is another similar process (Ref.5; Yu.I. Derbentsev, A.A. Balandin, G.V. Isagulyants, Kinetika i kataliz, v.2, 741, 1961). A pure consecutive process occurs in the dehydrogenation of butane-butene mixtures on chromium catalysts. Both the butane and butenes are converted directly to butadiene, the conversion rate from butane being about 3 times faster than from butene.

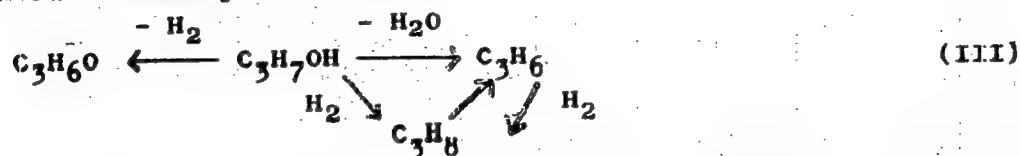
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An unexpectedly interesting system is the decomposition of isopropyl alcohol on a vanadium trioxide catalyst. The catalyst was obtained by passing hydrogen over the trioxide at 417° . The general scheme possible is:



By using radioactive propylene (up to 29 000 imp./min on $BaCO_3$), and by separating propane, propylene, and the catalysate, and determining their activities, it was shown that propylene is not converted to isopropyl alcohol at 315° , and that propane is formed, not from propylene, but from the isopropyl alcohol. There are 1 table and 10 references; 8 Soviet-bloc and 2 non-Soviet-bloc. The English language references read as follows: Ref.8: V.J. Komarevsky, J.Amer.Chem.Soc., v.69, 238, 1947.

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11.0132

AUTHORS: Derbentsev, Yu.I., Balandin, A.A., and Isagulyants, G.V.

TITLE: Investigation of the role of cyclohexene in the heterogeneous catalytic dehydrogenation of cyclohexane, using radiocarbon

PERIODICAL: Kinetika i kataliz, v.2, no.5, 1961, 741-747

TEXT: The dehydrogenation of cyclohexane on chromia and rhenium catalysts has been studied, using C¹⁴. Chromia was chosen as an oxide catalyst, favourable for doublet dehydrogenation, and rhenium as a metallic catalyst suitable for a sextet dehydrogenation, where the conversion rate of cyclohexene by this process is negligible. The chromium oxide in 2-mm pellets was obtained from ammonium bichromate. Before every experiment the rhenium catalyst, prepared by the method previously described (Ref.8; A.A. Balandin, Ye.I. Karpeyskaya, A.A. Tolstopyatova, Zh. fiz. khimii, v.33, 2471, 1959) was kept for one hour in hydrogen at 480 °C.

A continuous flow reactor was used, with varying initial concentrations of cyclohexane (obtained by hydrogenation of benzol),

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benzol, and marked cyclohexene (activity 470 pulses/minute
mg BaCO₃) obtained from C¹⁴ marked phenol. The catalysates were
analysed chromatographically on a 7m long spiral column of
diatomaceous earth, of which the first half was impregnated with
dinonylphthalata, and the second half with dioctylsebacate; the
outlet from the column was led either to a thermal conductivity
detector or for quantitative analysis to a bubbler with obaryta
water, in order to obtain barium carbonate. The radioactivity of
targets made from this carbonate was measured with an end window
counter, and samples taken after 15 min. On the chromia
catalyst, benzole was formed by a parallel-consecutive process;
conversion of cyclohexane into benzole is 1.5 times faster than
the conversion of cyclohexene; a considerable part being formed
from adsorbed and desorbed cyclohexene and it is obviously a
doublet mechanism of dehydrogenation. On the rhenium catalyst,
there is no consecutive process at all and cyclohexane is
converted directly into benzole by a sextet mechanism. The
differing behaviour on the two types of catalyst is striking;
on chromia it is dehydrogenated to benzole, but on rhenium it is

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ISAGULYANTS, G.V.; BALANDIN, A.A., akademik; POPOV, Ye.I.

Determination of relative adsorption coefficients by isotopic
dilution. Dokl. AN SSSR 139 no.1:139-141 J1 '61. (MIRA 14:7)
(Adsorption) (Radioactive tracers)

ZAKHARYCHEVA, I. I.; ISAGULYANTS, G. V.; BALANDIN, A. A.

Formation of ethane during decomposition of ethyl alcohol on titanium dioxide. Izv. AN SSSR. Otd. khim. nauk no.1:179-180 '63. (MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Ethane) (Ethyl alcohol)

MINACHEV, Kh. M.; ISAGULYANTS, G. V.

"Investigation of catalyst poisoning and hydrocarbons conversion mechanism in reforming process."

report submitted to 3rd Intl Cong on Catalysis, Amsterdam, 20-25 Jul 64.

ISAGULYANTS, G.V.; RYASHENTSEVA, M.A.; DERBENTSEV, Yu.I.; MINACHEV, Kh.M.;
BALANDIN, A.A.

Role of cyclohexene in the dehydrogenation and isomerization
of cyclohexane under conditions of reforming. Neftekhimiya 4
no.2:229-235 Mr-Ap'64 (MIRA 17:8)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.

ISAGULYANTS, G.V.; BALANDIN, A.A.; POPOV, Ye.I.; DERBENTSEV, Yu.I. (Moscow)

C^{14} tracer study of the dehydration mechanism of ethyl alcohol
on aluminum oxide. Zhur. fiz. khim. 38 no.1:20-27 Ja'64.
(MIRA 17:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

DERBENTSEV, Yu.I.; MARKOV, M.A.; ISAGULYANTS, G.V.; MINACHEV, Kh.M.;
BALANDIN, A.A., akademik; Prinimala uchast'ye SHCHUKINA, O.K.

Mechanism of cyclohexane dehydrogenation over holmium oxide studied
with the use of radiocarbon C14. Dokl. AN SSSR 155 no.1:128-131
Mr '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

ISAGULYANTS, G.V.; DERBENTSEV, Yu.I.; KLABUNOVSKIY, Ye.I.; BALANDIN, A.A.

Mechanism underlying the catalytic dehydration of 2-butanol
on the surface of aluminum oxide. Izv. AN SSSR. Ser. khim.
no.6:985-990 Je '64. (MIRA 17:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

ISAGULYANTS, G.V.; RYASHENTSEVA, M.A.; DERBENTSEV, Yu.I.; MINACHEV,
Kh.M.; BALANDIN, A.A.

Mechanism of cyclane isomerization on bifunctional catalysts.
Izv. AN SSSR. Ser. khim. no.8:1555-1556 Ag '64.

(MIRA 17:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

GADZHI-KASYMOV, V.S.; GUDKOV, B.S.; ISAGULYANTS, G.V.; BALAEV, A.A.

Manifestation of a bifunctional character of $\alpha = \text{Cr}_2\text{O}_3$
surface in catalytic conversions of cyclohexane. Izv. Ak
SSSR. Ser. Khim. no.6:1121 '66. (MIRA 18:6)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

ISAGULYANTS, G.V.; KOMAROVA, Ye.N.; BALANDIN, A.A., akademik

Dehydrogenation mechanism of six-membered cyclanes. Dehydrogenation of methylcyclohexane on an aluminum-chromium catalyst. Dokl. AN SSSR 164 no.6:1307-1310 O '65. (MIRA 18:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

DERBENTSEV, Yu.I.; ISAGULYANTS, G.V.; BALANDIN, A.A.

Study of the mechanism of alcohol and ether dehydration over an
aluminopotassium sulfate catalyst using radiocarbon C-14. Zhur.
fiz.khim. 39 no.10:2611-2614 O 1965.

(MIRA 18:12)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
Submitted August 27, 1964.

CA 17

Production of citral from the essential oil dragonhead (1930). S. S. Namethin, V. I. Jangulyants and O. V. Shvarts. *Sintezy Dushistykh Veshchestv, Sbornik Statei* 1939, 307-8; *Khim. Refert. Zhur.* 1940, No. 4, 120.—A 1940, method was developed for obtaining citral from Soviet oil of dragonhead by treatment with sulfur. The citral has a pleasant lemon odor, and is nearly colorless or slightly yellow. The yield is 70-80%, d_4^{20} 0.863-0.869, n_D^{20} 1.465-1.468. The citral obtained according to this method is suitable for perfumery purposes and also for obtaining ionone and methylionone. W. R. Hens

ASS-566 METALLURGICAL LITERATURE CLASSIFICATION

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<p><i>co</i></p> <p>Processes and Properties Index</p> <p>Oxidation of anethole to anisaldehyde. P. SHORUGHIN, V. ISAGULYANTS AND E. ZEMANOVICH. <i>Zhur. Prikladnoi Khim.</i> 3, 1189-92(1930).—$K_2Cr_2O_7$ was used as oxidizing agent. The effect of adding sulfanilic acid and other substances on the yield of anisaldehyde was investigated.</p> <p>V. KALICHEVSKY</p>																																																			
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM SOURCE</p> <p>SECONDARY REF. ORG. USE</p> <p>CLASSIFICATION</p> <p>WRITE OR COPY</p>																																																			

10
 Homologs of cinnamaldehyde. I. α -Alkyl substituted homologs of cinnamaldehyde. P. SHORUDIN, V. JAGANNATH, K. NEELYANINGRA, K. BOMACHIVA AND S. SEORUNSKAYA. *J. Russ. Phys.-Chem. Soc.* **62**, 3033-8 (1930).--The following α -alkyl substituted homologs and deriva. of cinnamaldehyde are described: Et, b_p 122-3°, d_4^{20} 1.0384 (semicarbazone, m. 190-200°); iso-Pr, b_p 139-40°, d_4^{20} 1.0113 (semicarbazone, m. 191-2°); Amyl, b_p 174-6°, m. 4°, d_4^{20} 0.9800 (semicarbazone, m. 111-2°). The mol. refraction of the aldehydes shows considerable exaltation. B. C. A.

COMMON ELEMENTS		COMMON ALLOYED METS		OPEN		METALLS		NON-METALS		GASES		LIQUIDS		SOLIDS		OTHERS	
<p>Investigation of the residues from fuel oil. P. P. Shorogin, V. I. Isakhanova, V. N. Belov and Z. P. Aleksandrova. <i>J. Gen. Chem.</i> (U. S. S. R.) 4, 372-34 (1934).—The residues remaining in the Saval app. from the distn. of fuel oil of unknown origin (probably from potato spirits) had d₄²⁰ 0.873, H₂O 1.6%, acid no. 10.7, sapon. no. 247.6 and ash 9.33%. The product of sapon. of the residues with alc. KOH contained acids 13, alcs. 36, bases 4.5 and neutral unsaponifiable substances 10%. Of the alcs., 31% was (C₁₈H₃₇)₂CH(CH₂)₂OH or lower-boiling members. In the remaining 6% were identified normal C₁₇H₃₅OH, C₁₆H₃₃OH, C₁₅H₃₁OH and C₁₄H₂₉OH; normal C₁₇H₃₅CO₂H, C₁₆H₃₃CO₂H, C₁₅H₃₁CO₂H, C₁₄H₂₉CO₂H and C₁₃H₂₇CO₂H were identified in the acid fraction, both as free acids and as their Et esters. The basic fraction contained trimethylpyrrolidine, tetramethylpyrrolidine, ethylpyrrolidine and a new compd., C₁₁H₂₁N₃, probably triethylmethylpyrrolidine. Acids with an odd no. of C atoms were not found. The fractionation of fuel oil as outlined promises to be a valuable com. source of otherwise difficultly obtainable aliphatic alcs. and acids.</p> <p style="text-align: right;">Lewis W. Nuts</p>																	
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<p><i>Che</i></p> <p>Intermediates for dyes and antiseptics. J. N. W. Action of metals on aldehydes. P. P. Shorvagin, V. I. Izrael'skiy and A. R. Guseva. <i>J. Gen. Chem.</i> (U.S.S.R.) <u>34</u>, 1885-6 (1964).—Al + Mg salts activated with a crystal of 1 violently react with H₂O in EtOH with forma- tion of FeCH(OH)COOEt if an equiv. amt. of Mg is taken; in case of insufficient Mg, FeOCH₂Ph is formed. Simi- larly, MeOC.HCHO produces anions which is oxidized to acid. Picramal does not react. The product formed by action of Cu on BaH—green crystals—has not yet been investigated. Zn + Fe does not react with BaH under the conditions of the expts. Aliphatic aldehydes are con- sumed by the action of Al + Mg with formation of unsatd. aldehydes of double mol. wt. as shown on MeCHCHCHO and Me(CH=CH)₂CHO. I. G. Tobolsky</p>																																																			
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1ST AND 2ND CIPHERS																										3RD AND 4TH CIPHERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Preparation of organomagnesium compounds in the absence of ether. P. P. Shorin, V. I. Lavrenko and A. B. Gerasimov. <i>J. Gen. Chem. (U. S. S. R.)</i> 4, 580-94 (1934). — $n\text{-C}_4\text{H}_9\text{Cl}$ readily reacts exothermically with Mg filings in the absence of solvents at 200°; the yield of $\text{C}_4\text{H}_9\text{MgCl}$ is about 16% of theoretical; C_4H_9 is dist. off. PhCH_2Cl energetically reacts with Mg on heating to boiling, with liberation of HCl and formation of a resinous mass sol. in the usual org. solvents. BuCl, iso-PrCl, $\text{C}_6\text{H}_5\text{Cl}$ also violently react with Mg on heating to boiling. The action of CO_2 on $\text{C}_4\text{H}_9\text{Cl} + \text{Mg}$ results in the formation of RMgCl, but this is instantly pyrolytically decomposed. By the action of PhMe on the reacting mixt. of $\text{RCl} + \text{Mg}$, $p\text{-RC}_6\text{H}_4\text{Cl}$ is formed; $p\text{-C}_6\text{H}_4\text{C}_6\text{H}_5$ is formed as a cryst. by-product of the reaction of PhCl with Mg. V. G. Tolpin</p>																																																			
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PROCESSING AND PROPERTIES INDEX																																																			
<p>10</p> <p>A new method of obtaining organic magnesium compounds and their use. P. P. Shornigin and V. I. Isakulyan. <i>Trans. VI Mendeleev Cong. Theoret. Applied Chem.</i> 1932 2, Pt. 1, 973-80(1935).—Org. Mg compds., PhMgCl and Ph_2Mg, were obtained by treating metallic Mg with PhCl 3-3.5 hrs. at $180-5^\circ$ under about 2.5 atm. pressure or at normal pressure (in the latter case a small output was obtained). Ph_2 and $p\text{-C}_6\text{H}_4\text{Ph}_2$ were obtained as by-products. Optimal conditions of the process were investigated. $\text{PhCH}_2\text{CH}_2\text{OH}$ was obtained by treating the product of the reaction with dry benzene or toluene and a benzene or toluene soln. of ethylene oxide with subsequent condensation. No ether was used in the operation. The method worked out in the lab. was investigated also under semiplant conditions; details of the latter are given. E. E. Stefanovsky</p>																																																			
<p>ADD. 5.1A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>1ST AND 2ND ORDERS</p>																																																			